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TITLE: Effectiveness of Telerehabilitation for OIF/OEF returnees with Combat Related Trauma.

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13. SUPPLEMENTARY NOTES

14. ABSTRACT

The objectives of this proposed study are to 1) Coordinate medical care to meet the physical and mental health needs of OIF/OEF veterans with injuries incurred in combat 2) Determine the immediate and sustained effects of telerehabilitation on patient outcomes on a variety of physical, psychological and social functions over the period of study 3) Examine the perceived benefits and limitations of the telerehab from the veteran and caregiver perspectives and 4) Evaluate the effectiveness of telerehab on health outcomes and resource utilization **Study design**: This multi-year study will use a prospective observational design to extend the present study at the Tampa VA to 1) recruit 60 veterans each at the Tampa and Miami VA hospitals divided equally among the two groups receiving telerehab and those with traditional care acting as controls at each site; and 2) begin the process of extending the research to the Washington D.C. VAMC, at which site we will recruit up to 40 veterans, also equally divided between those receiving telerehab (Intervention) and traditional care (Controls). **Methods**: We will utilize qualitative and quantitative analysis for evaluating changes in functional and mental health status, community participation, VA healthcare utilization, and veteran/family perceptions of telerehab.

15. SUBJECT TERMS

| Nothing listed | | | | | |
|-----------------------------|-------------|--------------|----------------|--------|--------------------------------|
| 16. SECURITY CLASSIFICATION | N OF: | | 17. LIMITATION | 18. | 19a. NAME OF RESPONSIBLE |
| | | | OF ABSTRACT | NUMBER | PERSON |
| | | | | OF | USAMRMC |
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Purpose and scope of the research effort.

Goals: This is one project in a planned program of research to improve care for injured Operation Enduring Freedom/Operation Iraqi freedom (OEF/OIF) veterans. Building on the successful CDMRP study "Effectiveness of Telerehabilitation for OIF/OEF returnees with Combat Related Trauma": W81XWH08-2-0091 we propose with this research to extend our analysis to evaluating the effectiveness of the telerehabilitation intervention for veterans with combat related trauma. We plan to test its effectiveness with a cohort of OIF/OEF returnees discharged from the James A Haley Veterans Hospital in Tampa, FL (Tampa VA) and the Bruce B Carter VA Medical Center at Miami (Miami VA).

The *long term* goal of this program of research is to optimally define telerehabilitation services for all veterans with polytrauma, including accurate and efficient screening instruments, educational material for patients and families, family support, and family counseling to enhance care coordination and to maximize functional outcomes and quality of life.

Overall progress to date and problem areas

Statement of Work

Obtain Institutional Review Board and conduct literature review.

1) IRB approvals and Informed Consents for the study have been obtained from the University of South Florida and the Miami VA to facilitate enrollment of subjects. All required documents for project approval have been forwarded to USAMRMC. Clearance has been obtained from HRPO (DoD) to commence and continue our study.

Care Coordination Team

Our telerehabilitation care coordination team is organized under Steve Scott, MD, Chief Physical Medicine and Rehabilitation Services VA at the Tampa VA. Vilma Rosada, RN is in charge of care coordination and recruitment of combat wounded OEF/OIF veterans via telerehabilitation at Tampa. Assisting her are William Lapcevic, MSST, MPH an expert in information technology and data management together with Steve Moore MS, website coordinator. Andrea Spehar, JD, DVM, MPH is the project manager at the Tampa VA. Ms. Blanco Barreto, RN is the care coordinator efforts at The Miami VA.

Data collection and Care Coordination.

Instruments for data collection will be posted on Surveymonkey a commercial website that was cleared by VA Information Security at the James Haley Veterans Hospital as meeting the requirements for a secure data gathering portal. Details on Surveymonkey can be found at surveymonkey.com. Participants in the study will access the website to answer surveys which will be downloaded and maintained in SAS datasets for analysis purposes. We maintain a secure messaging website hosted at VA WebOps that serves as the main conduit for communication between care coordinators and study enrollees. Separate "virtual rooms" have been setup on the

VA server to facilitate care coordination at the two sites without compromising patient confidentiality. At least once a week communication will be initiated between care coordinators and study participants.

Monitoring health outcomes: Veterans were required to connect (via the internet) to a secured commercial website (SurveyMonkey^R) to provide, periodically, repeated measures of response to a variety of instruments to monitor their health outcomes over time including the Functional Independence and Functional Assessment MeasureTM, the Craig Handicap Assessment and Reporting Technique Short Form, The Mayo-Portland Adaptability Inventory, the Patient Health Questionnaire, the Patient Competency Rating Scale, the PTSD Checklist Civilian Version, Short Post-Traumatic Stress Disorder Rating Interview, Self-Report Alcohol Use Disorders Identification Test & SF-12 Health Survey. No more data is presently being collected. However, care coordination continues to be provided to enrollees.

Patient Recruitment

We have recruited a total of 60 veterans at the Tampa VA equally divided between the intervention and control group who meet the inclusionary criteria. Twenty one veterans from Tampa have dis-enrolled from the study: 9 subjects moved out of state, 10 did not respond to requests to complete surveys, one has been incarcerated by law enforcement and another passed away. As of this date, 60 subjects have been recruited in Miami (16 veterans have been dropped, 12 moved out of state, 3 did not responds to requests to complete surveys and 1 veteran expired). The Miami site has been closed since the beginning of 2016 and all veterans disenrolled.

Body

Revised Statement of Work

Effectiveness of Telerehabilitation for OIF/OEF returnees with Combat related Trauma.

CDMRP award (W81XWH-11-2-0063)

Task 1. Administrative tasks, Months 1-3

Completed

- a. Obtain Institutional Review Board and conduct literature review.
- b. Recruit care coordinator (ARNP) and program manager at the Miami VA facility.
- c. Order computers, load software programs/survey instruments and set up web site on VA servers.
- d. Recruit veterans for the control group at the Tampa VA.

Task 2. Patient recruitment and programming, Months 3-32:

Completed

- 1. Finalize list of all OEF/OIF returnees discharged from the Miami VA with a primary or secondary diagnosis of TBI.
- 2. Contact (phone/internet/mail) patients who meet inclusion criterion and agree to participate in telerehab and have informed consents signed at the Tampa and Miami VAs.
- 3. Provide access privileges to enrollees to telerehab website.

Task 3. Data Collection: Months 5-60.

Completed

- 1. Abstract from the Veterans' health Information Systems & Technology Architecture (VistA) medical record abstracts pertaining to health care utilization and treatments of combat wounded veterans.
- 2. Abstract from the VA Decision Support System (DSS) cost estimates of VA Health Care Utilization.
- 3. Obtain responses to instruments to capture function. cognition, ability, integration into society
- 4. Conduct patient/caregiver satisfaction surveys and perceptions on facilitators and barriers to telerehabilitation.

Task 4. Initiate the Washington DC as a test site: Months 60-84. **To be started**

- Obtain IRB and DOD clearance.
- Recruit veterans.
- Collect data on health outcomes.

Task 5. Data Analysis: Months 60-84.

To be started

Conduct multivariate statistical analysis and economic modeling to:

- Determine changes in functional/cognition and community integration
- Characterize changes in status of Post Traumatic Stress Disorders.
- Identify changes in patterns of healthcare utilization and associated costs
- Evaluate the cost effectiveness of telerehabilitation.

Conduct interviews to synthesize facilitators and barriers to providing telerehabilitation for TBI.

Task 6. Report Writing: Months 72-84

To be started

a. Prepare final report and initial manuscripts.

Patient Recruitment

Table 1 indicates subject characteristics of all 120 veterans enrolled in the study at the Tampa and Miami facilities. This report summarizes our findings for the veterans who completed baseline surveys. 9 veterans of the 120 were female. Females cannot be enlisted in combat units but do sustain injuries due to accidents and indirect fire. A majority of veterans enrolled classified themselves as white (N=96), 82% Non-Hispanic in Tampa and 67% Hispanic in Miami. The mean age (standard deviation) was 33.6 (8.9) in Tampa and 32.7 (10.3) in Miami.

Table 1: Subject Characteristics (N=120)

| | Tampa | Miami |
|-----------------|------------|-------------|
| Gender | N (%) | N (%) |
| Female | 4 (6.7) | 5 (8.3) |
| Male | 56 (93.3) | 55 (91.7) |
| Race | | |
| Black | 12 (20.0) | 8 (13.3) |
| Native American | 1 (1.7) | 0 |
| Native Hawaiian | 1 (1.7) | 0 |
| White | 46 (76.7) | 50 (83.3) |
| Unanswered | 0 | 2 (3.3) |
| Ethnicity | | |
| Hispanic | 11 (18.3) | 40 (66.7) |
| Non-Hispanic | 49 (81.7) | 20 (33.3) |
| Age | | |
| 18-29 | 26 (43.3) | 26 (43.3) |
| 30-39 | 18 (30.0) | 25 (41.7) |
| 40-49 | 12 (20.0) | 7 (11.7) |
| 50+ | 4 (6.7) | 2 (3.3) |
| Age - Mean (SD) | | |
| Ν | 60 | 60 |
| | 33.6 (8.9) | 32.7 (10.3) |

Baseline Surveys

Baseline surveys were conducted to: 1) To characterize rehabilitation trajectories over time in the areas of function, cognition, psychosocial adjustment, integration into society and mental health disorders over time and 2) To individualize treatment patterns customized to each veterans needs so as to maximize the effect of telerehabilitation. Unlike traditional telemedicine that deals with disease specific monitoring or intervention (diabetes, CHF, dementia etc), our cohort exhibits a very diverse population in terms of disease affliction, complexity and propensity to receive care.

Survey Instruments

There are nine survey instruments to be completed by study subjects at six month intervals starting with baseline surveys while enrolled in the study. The Functional Independence Measure and Functional Assessment Measure (FIM/FAM); Craig Handicap Assessment and Reporting Technique - Short Form (CHART-SF), The Mayo-Portland Adaptability Inventory (MPAI-4); Patient Health Questionnaire (PHQ which includes PHQ-2, PHQ-8, PHQ-9, PHQ-15), The Patient Competency Rating Scale (PCRS); The PTSD Checklist - Civilian Version (PCL-C); Short Post-Traumatic Stress Disorder Rating Interview (SPRINT); Alcohol Use Disorders Identification Test (AUDIT); and the SF-12 Health Survey (SF12). The surveys will all be administered at baseline, 6-months and 12-months. The Patient/Caregiver satisfaction surveys are conducted after 12 months of continuous enrollment in telerehabilitation. To date, 60 enrollees in the Telerehab intervention and 59 others in the control group have completed baseline survey instruments. The corresponding 6 month survey completions pertain to the intervention (n=56) and in the control group (n=57). Twelve month survey completions are 51 in the study and 56 in the control group. Some of the key survey instruments utilized for this yearly report are summarized below:

Patient Health Questionnaire (PHQ)

The full PHQ questionnaire is a validated instrument for assessing and monitoring depression severity and incorporates a number of modules which comprise a subset of the questions contained in the full PHQ and can be used collectively or independently to assess a patient's health. Modules PHQ-9 & PHQ-8 measure Depression symptom severity while PHQ-15 provides for evaluating Somatoform disorders. PHQ-2 is an Ultra brief screener of the full PHQ. Tabled below are the findings from the PHQ questionnaire administered to enrolled veterans in Tampa and Miami.

Tampa: Patient Health Questionnaire (PHQ15, PHQ 2, PHQ 8, PHQ 9)

Lower scores imply better outcomes.

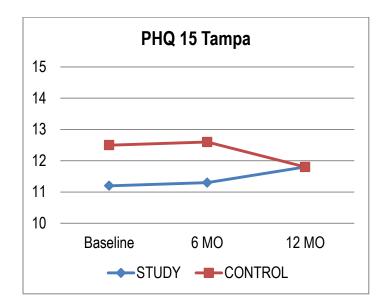
| TAMPA | Bas | eline | 6 MO | | 12 MO | |
|--|-----------|-----------|-----------|-----------|-----------|-----------|
| MEAN±STD | N=30 | N=29 | N=28 | N=28 | N=26 | N=27 |
| | STUDY | CONTROL | STUDY | CONTROL | STUDY | CONTROL |
| PHQ-15 Score | 11.2±4.23 | 12.5±5.35 | 11.3±4.59 | 12.6±6.12 | 11.8±5.03 | 11.8±5.94 |
| Stomach pain | 0.4±0.57 | 0.7±0.67 | 0.6±0.68 | 0.8±0.77 | 0.6±0.64 | 0.7±0.76 |
| Back pain | 1.4±0.72 | 1.5±0.83 | 1.5±0.69 | 1.4±0.78 | 1.6±0.64 | 1.4±0.79 |
| Pain in your arms, legs, or joints (knees, hips, etc) | 1.5±0.68 | 1.4±0.78 | 1.5±0.64 | 1.3±0.82 | 1.5±0.71 | 1.3±0.62 |
| Menstrual cramps or other problems with your periods (if you are male select Not bothered) | 0±0 | 0.1±0.37 | 0±0 | 0±0.19 | 0±0 | 0.2±0.48 |
| Headaches | 1.5±0.68 | 1.4±0.69 | 1.4±0.63 | 1.3±0.76 | 1.5±0.71 | 1.3±0.68 |
| Chest pain | 0.4±0.49 | 0.5±0.63 | 0.4±0.56 | 0.6±0.69 | 0.5±0.65 | 0.4±0.56 |
| Dizziness | 0.9±0.66 | 0.9±0.62 | 0.7±0.6 | 1±0.58 | 0.7±0.69 | 0.9±0.6 |
| Fainting spells | 0.2±0.5 | 0.2±0.49 | 0.1±0.26 | 0.3±0.44 | 0.3±0.53 | 0.2±0.48 |

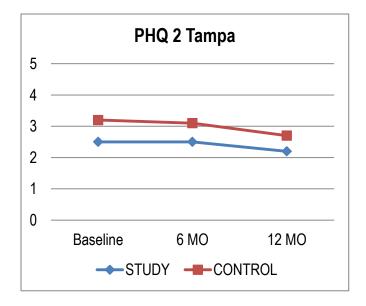
| Feeling your heart pound or race | 0.7±0.58 | 0.9±0.8 | 0.9±0.45 | 0.9±0.8 | 0.6±0.5 | 0.8±0.64 |
|--|----------------------|----------------------|----------|----------------------|----------|----------------------|
| Shortness of breath | 0.7±0.50 0.5±0.57 | 0.7±0.65 | 0.5±0.43 | 0.8±0.65 | 0.6±0.58 | 0.0±0.64 0.7±0.68 |
| Pain or problems during sexual intercourse | 0.5±0.37 | 0.7±0.69 | 0.4±0.79 | 0.6±0.84 | 0.6±0.81 | 0.7±0.58 |
| Constipation, loose bowels, or diarrhea | 0.5±0.73 | 0.6±0.73 | 0.7±0.73 | 0.6±0.83 | 0.7±0.67 | 0.6±0.79 |
| Nausea, gas, or indigestion | 0.3±0.66 | 0.0±0.73 0.9±0.64 | 1±0.69 | 0.0±0.69 | 1±0.66 | 0.8±0.68 |
| Feeling tired or having little energy | 0.7±0.00 0.7±0.79 | 0.9±0.04 0.9±0.88 | 0.6±0.73 | 0.9±0.09 0.9±0.83 | 0.7±0.8 | 1±0.81 |
| Trouble falling or staying asleep, or sleeping too | 0.7±0.79 | 0.9±0.00 | 0.0±0.73 | 0.9±0.03 | 0.7±0.0 | 1±0.01 |
| much | 1.2±0.83 | 1.4±0.82 | 1±0.88 | 1.3±0.9 | 1.2±0.83 | 1.1±0.85 |
| | | | | | | |
| PHQ- 2 Score | 2.5±1.78 | 3.2±1.87 | 2.5±1.6 | 3.1±1.82 | 2.2±1.83 | 2.7±1.8 |
| Little interest or pleasure in doing things | 1.5±0.94 | 1.6±1.01 | 1.4±0.96 | 1.5±0.92 | 1.3±1.05 | 1.4±0.97 |
| Feeling down, depressed, or hopeless | 1±0.96 | 1.6±0.99 | 1.1±0.76 | 1.5±0.96 | 0.9±0.95 | 1.2±1.01 |
| 3 7 1 7 1 | | | | | | |
| PHQ- 8 Score | 9.3±5.2 | 10.8±6.58 | 8.6±4.4 | 10.4±5.67 | 8.6±5.97 | 9.8±6.5 |
| Little interest or pleasure in doing things | 1.5±0.94 | 1.6±1.01 | 1.4±0.96 | 1.5±0.92 | 1.3±1.05 | 1.4±0.97 |
| Feeling down, depressed, or hopeless | 1±0.96 | 1.6±0.99 | 1.1±0.76 | 1.5±0.96 | 0.9±0.95 | 1.2±1.01 |
| Trouble falling or staying asleep, or sleeping too much | 1.2±0.83 | 1.4±0.82 | 1±0.88 | 1.3±0.9 | 1.2±0.83 | 1.1±0.85 |
| Feeling tired or having little energy | 0.7±0.79 | 0.9±0.88 | 0.6±0.73 | 0.9±0.83 | 0.7±0.8 | 1±0.81 |
| Poor appetite or overeating | 1.1±0.94 | 1.1±1.18 | 1.3±0.98 | 1.2±1.06 | 1.2±0.97 | 1.3±1.24 |
| Feeling bad about yourself, or that you are a failure, or have let yourself or your family down | 1.1±1.05 | 1.6±1.3 | 1.1±0.83 | 1.3±1.02 | 1±1.15 | 1.3±1.18 |
| Trouble concentrating on things, such as reading the newspaper or watching television | 1.7±0.98 | 1.7±1.22 | 1.4±0.99 | 1.5±1 | 1.6±1.06 | 1.4±1.12 |
| Moving or speaking so slowly that other people could have noticed? Or the opposite being so fidgety or restless that you have been moving around a lot more than usual | 1±0.95 | 1±1.2 | 0.7±0.67 | 1.2±0.98 | 0.9±0.91 | 1±1.06 |
| BUO A A | 07.550 | 44.0.70 | 0.0.4.00 | 400.000 | 0.044 | 40.0.000 |
| PHQ-9 Score | 9.7±5.59 | 11.3±7.2 | 8.9±4.68 | 10.9±6.22 | 9±6.44 | 10.3±6.89 |
| Little interest or pleasure in doing things | 1.5±0.94 | 1.6±1.01 | 1.4±0.96 | 1.5±0.92 | 1.3±1.05 | 1.4±0.97 |
| Feeling down, depressed, or hopeless | 1±0.96 | 1.6±0.99 | 1.1±0.76 | 1.5±0.96 | 0.9±0.95 | 1.2±1.01 |
| Trouble falling or staying asleep, or sleeping too much | 1.2±0.83 | 1.4±0.82 | 1±0.88 | 1.3±0.9 | 1.2±0.83 | 1.1±0.85 |
| Feeling tired or having little energy | 0.7±0.79 | 0.9±0.88 | 0.6±0.73 | 0.9±0.83 | 0.7±0.8 | 1±0.81 |
| Poor appetite or overeating | 1.1±0.94 | 1.1±1.18 | 1.3±0.98 | 1.2±1.06 | 1.2±0.97 | 1.3±1.24 |
| Feeling bad about yourself, or that you are a failure, or have let yourself or your family down | 1.1±1.05 | 1.6±1.3 | 1.1±0.83 | 1.3±1.02 | 1±1.15 | 1.3±1.18 |
| Trouble concentrating on things, such as reading the newspaper or watching television | 1.7±0.98 | 1.7±1.22 | 1.4±0.99 | 1.5±1 | 1.6±1.06 | 1.4±1.12 |
| Moving or speaking so slowly that other people could have noticed? Or the opposite being so fidgety or restless that you have been moving around a lot more than usual | 1±0.95 | 1±1.2 | 0.7±0.67 | 1.2±0.98 | 0.9±0.91 | 1±1.06 |
| Thoughts that you would be better off dead or of hurting yourself in some way | 0.4±0.72 | 0.5±0.91 | 0.3±0.6 | 0.4±0.92 | 0.4±0.75 | 0.4±0.8 |

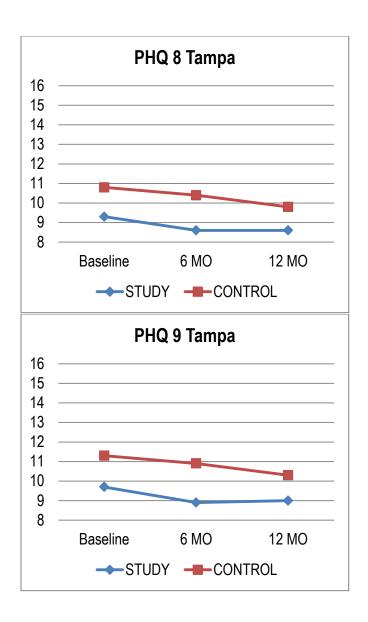
Findings: Aggregate scores for each of the subscales or modules were calculated per PHQ scoring guidelines with individual weights applied to questions. All PHQ subscales for the Tampa site except the PHQ 15 show a decrease in mean aggregate scores over time as indicated in Figure 1.

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Figure 1: Changes in aggregate scores over time *Lower score implies better outcomes*.







Miami: Patient Health Questionnaire (PHQ15, PHQ 2, PHQ 8, PHQ 9)

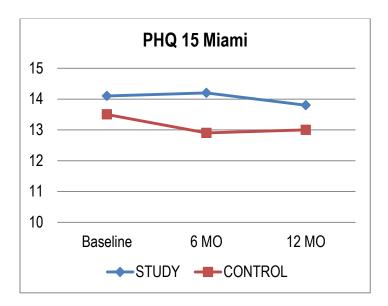
| MIAMI | Baseline | | 6 MO | | 12 MO | |
|--|-----------|----------|-----------|-----------|-----------|----------|
| MEAN±STD | N=30 | N=30 | N=28 | N=29 | N=25 | N=29 |
| | STUDY | CONTROL | STUDY | CONTROL | STUDY | CONTROL |
| PHQ-15 Score | 14.1±4.86 | 13.5±7 | 14.2±4.55 | 12.9±6.59 | 13.8±5.86 | 13±7.54 |
| Stomach pain | 0.5±0.68 | 0.7±0.83 | 0.7±0.71 | 0.6±0.63 | 0.7±0.74 | 0.6±0.69 |
| Back pain | 1.5±0.73 | 1.4±0.77 | 1.5±0.69 | 1.6±0.68 | 1.5±0.71 | 1.5±0.63 |
| Pain in your arms, legs, or joints (knees, hips, etc) | 1.5±0.51 | 1.5±0.73 | 1.5±0.51 | 1.4±0.78 | 1.5±0.59 | 1.4±0.73 |
| Menstrual cramps or other problems with your periods (if you are male select Not bothered) | 0.1±0.25 | 0.1±0.4 | 0.1±0.42 | 0.1±0.35 | 0.2±0.58 | 0.1±0.44 |

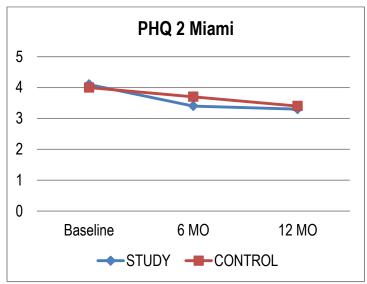
| Headaches | 1.6±0.56 | 1.4±0.77 | 1.6±0.57 | 1.4±0.68 | 1.5±0.65 | 1.2±0.74 |
|--|----------------------|---------------------|----------------------|----------------------|---------------------|---------------------------------------|
| Chest pain | 0.7±0.74 | 0.4±0.67 | 0.6±0.74 | 0.3±0.61 | 0.7±0.79 | 0.5±0.69 |
| Dizziness | 0.9±0.52 | 0.8±0.73 | 1.1±0.6 | 0.8±0.62 | 0.9±0.6 | 0.7±0.7 |
| Fainting spells | 0.5±0.63 | 0.3±0.6 | 0.4±0.5 | 0.4±0.57 | 0.5±0.71 | 0.3±0.54 |
| Feeling your heart pound or race | 0.9±0.64 | 1.1±0.76 | 1±0.67 | 0.4±0.37 0.8±0.73 | 1±0.71 | 1±0.8 |
| Shortness of breath | 0.8±0.81 | 0.7±0.69 | 0.9±0.76 | 0.0±0.73 | 0.8±0.69 | 0.8±0.77 |
| Pain or problems during sexual intercourse | 0.5±0.68 | 0.7±0.09 0.9±0.9 | 0.9±0.70 0.6±0.78 | 0.7±0.72 0.8±0.8 | 0.5±0.09 | 0.0±0.77 0.9±0.84 |
| Constipation, loose bowels, or diarrhea | 0.5±0.08 0.9±0.78 | 0.9±0.9 0.6±0.89 | 0.0±0.78 0.9±0.86 | 0.8±0.86 | 0.3±0.77 0.8±0.8 | 0.9±0.04 0.8±0.85 |
| • | 0.9±0.78 | | | 0.0±0.00 0.9±0.92 | 0.8±0.78 | |
| Nausea, gas, or indigestion Trouble falling or staying asleep, or sleeping too | 0.9±0.73 | 0.8±0.9 | 1±0.69 | 0.9±0.92 | U.0±U.70 | 1±0.85 |
| much | 1.4±0.77 | 1.5±0.73 | 1.3±0.89 | 1.4±0.78 | 1.3±0.74 | 1.1±0.92 |
| Feeling tired or having little energy | 1.4±0.81 | 1.2±0.77 | 1.1±0.79 | 0.9±0.92 | 1.2±0.71 | 1±0.87 |
| | T | | 1 | | T | · · · · · · · · · · · · · · · · · · · |
| PHQ-2 Score | 4.1±1.86 | 4±1.77 | 3.4±1.77 | 3.7±1.7 | 3.3±1.77 | 3.4±1.68 |
| Little interest or pleasure in doing things | 2.2±0.95 | 2.1±0.92 | 1.8±0.89 | 1.9±0.95 | 1.7±0.95 | 1.8±0.9 |
| Feeling down, depressed, or hopeless | 1.9±0.98 | 1.9±0.94 | 1.7±0.9 | 1.8±0.86 | 1.6±0.91 | 1.6±0.87 |
| | T | | l | | l | |
| PHQ- 8 Score | 14.5±6.3 | 12.7±5.71 | 13.3±5.05 | 12±5.71 | 12±5.56 | 11.6±6.43 |
| Little interest or pleasure in doing things | 2.2±0.95 | 2.1±0.92 | 1.8±0.89 | 1.9±0.95 | 1.7±0.95 | 1.8±0.9 |
| Feeling down, depressed, or hopeless | 1.9±0.98 | 1.9±0.94 | 1.7±0.9 | 1.8±0.86 | 1.6±0.91 | 1.6±0.87 |
| Trouble falling or staying asleep, or sleeping too much | 1.4±0.77 | 1.5±0.73 | 1.3±0.89 | 1.4±0.78 | 1.3±0.74 | 1.1±0.92 |
| Feeling tired or having little energy | 1.4±0.81 | 1.2±0.77 | 1.1±0.79 | 0.9 ± 0.92 | 1.2±0.71 | 1±0.87 |
| Poor appetite or overeating | 2.1±0.98 | 1.7±1.14 | 2±1.1 | 1.7±1.19 | 1.9±0.95 | 1.6±1.18 |
| Feeling bad about yourself, or that you are a failure, or have let yourself or your family down | 1.9±1.14 | 1.7±1.15 | 1.9±0.86 | 1.6±0.95 | 1.8±1 | 1.6±1.02 |
| Trouble concentrating on things, such as reading the newspaper or watching television | 2.2±0.96 | 1.6±1.07 | 2.2±0.88 | 1.7±1.07 | 1.6±0.91 | 1.7±1.07 |
| Moving or speaking so slowly that other people could have noticed? Or the opposite being so fidgety or restless that you have been moving around a lot more than usual | 1.4±1.13 | 0.9±1.06 | 1.4±0.96 | 1±1.15 | 1±1.02 | 1.2±1.21 |
| BUO A O | 450.000 | 40.0.000 | 40.7.500 | 40.7.000 | 40.0 5.05 | 400 705 |
| PHQ- 9 Score | 15.2±6.83 | 13.3±6.39 | 13.7±5.38 | 12.7±6.22 | 12.6±5.85 | 12.3±7.05 |
| Little interest or pleasure in doing things | 2.2±0.95 | 2.1±0.92 | 1.8±0.89 | 1.9±0.95 | 1.7±0.95 | 1.8±0.9 |
| Feeling down, depressed, or hopeless | 1.9±0.98 | 1.9±0.94 | 1.7±0.9 | 1.8±0.86 | 1.6±0.91 | 1.6±0.87 |
| Trouble falling or staying asleep, or sleeping too much | 1.4±0.77 | 1.5±0.73 | 1.3±0.89 | 1.4±0.78 | 1.3±0.74 | 1.1±0.92 |
| Feeling tired or having little energy | 1.4±0.81 | 1.2±0.77 | 1.1±0.79 | 0.9 ± 0.92 | 1.2±0.71 | 1±0.87 |
| Poor appetite or overeating | 2.1±0.98 | 1.7±1.14 | 2±1.1 | 1.7±1.19 | 1.9±0.95 | 1.6±1.18 |
| Feeling bad about yourself, or that you are a failure, or have let yourself or your family down | 1.9±1.14 | 1.7±1.15 | 1.9±0.86 | 1.6±0.95 | 1.8±1 | 1.6±1.02 |
| Trouble concentrating on things, such as reading the newspaper or watching television | 2.2±0.96 | 1.6±1.07 | 2.2±0.88 | 1.7±1.07 | 1.6±0.91 | 1.7±1.07 |
| Moving or speaking so slowly that other people could have noticed? Or the opposite being so fidgety or restless that you have been moving around a lot more than usual | 1.4±1.13 | 0.9±1.06 | 1.4±0.96 | 1±1.15 | 1±1.02 | 1.2±1.21 |

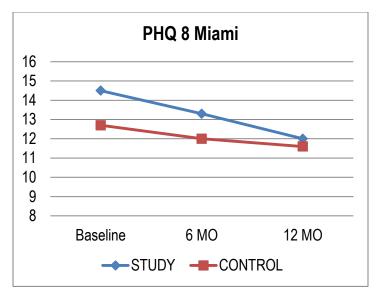
| Thoughts that you would be better off dead or of | 0.7±1.09 | 0.6±1 | 0.4±0.70 | 0.7±0.94 | 0.5+0.65 | 0.7±0.06 |
|--|----------|-------|----------|----------|----------|----------|
| hurting yourself in some way | 0.7±1.09 | 0.0±1 | 0.4±0.73 | 0.7±0.94 | 0.5±0.05 | 0.7±0.90 |

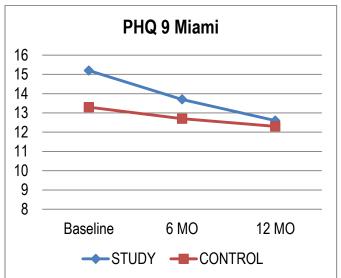
Lower score indicates a better health outcome.

Both the study and control groups for the Miami site show a decrease in mean score overtime for each of the PHQ subscales with the study group having larger decrease compared to the controls in the PHQ-8 & PHQ-9 subscales.









Conclusion:

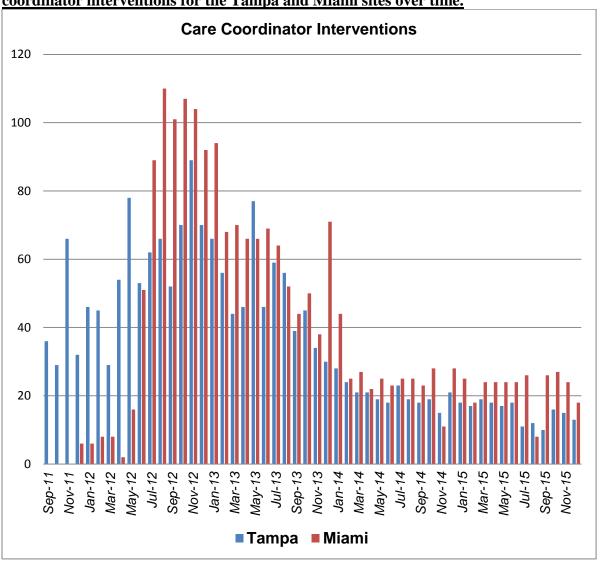
Care Coordination

Care coordination may include:

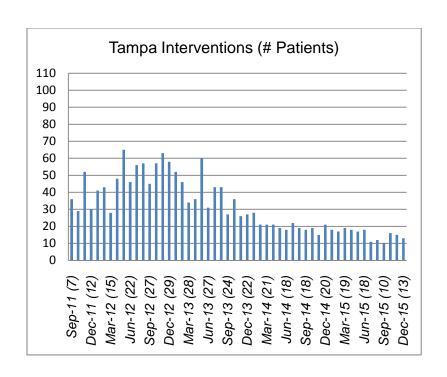
- 1. Monthly records review/care coordination monitoring and follow-up.
- 2. Monthly review of medical/mental health treatment plans.
- 3. Communication encounters/outreach via LAMP website which includes monthly future appointment reminders/treatment plan updates, follow-up on pending tests/labs ordered by PCP but not completed by veteran.
- 4. Collaboration/coordination with subjects Patient Aligned Care Team (PACT)/Mental Health team.

- 5. Facilitating veteran appointment request/scheduling with PACT team.
- 6. Active appointment coordination with MH providers to assess/evaluate veteran request for mental health intervention.
- 7. Prescription assistance/renewal.
- 8. Provide veterans with education/resource information to other federal programs/websites including but not limited to E-Benefits, GI Bill info, Comp&Pen, MyHealtheVet, Vocational Rehab and DOD-CSRC program.
- 9. Attempts to reintegration of non-responders for follow-up care with PACT/MH teams.

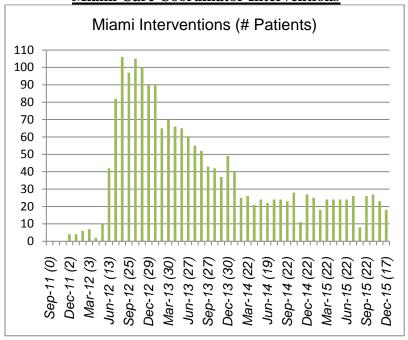
<u>Care Coordination Interventions (Tampa & Miami) – The graph shows the number of care coordinator interventions for the Tampa and Miami sites over time.</u>



Tampa Care Coordinator Interventions







<u>Conclusion:</u> Veterans are appreciative of care provided and strive to maximize care coordination with the intervention nurse.

Problem Areas

At this time we do not anticipate any problems in completing the project on schedule.

A description of work to be performed during the next reporting period.

We have completed enrollment at Tampa and Miami. The Miami VA site has closed the study and submitted its IRB and R&D documents to USAMRMC HRPO. The Tampa VA (lead) site has begun preliminary data analysis for both sites and will report the results in our upcoming quarterly reports. We have begun the process of expanding the present telerehab randomized control trial at the Tampa VA to the Washington D.C. VA Medical Center (Washington D.C. VAMC) through a request for a no cost Extension of the study. We have identified study personnel at the Washington D.C. VAMC, and the requisite documents (letter of support from the Washington D.C. VA Medical Center Director, revised Statement of Work, revised Protocol for Washington D.C. VAMC, CVs, etc.) have been prepared and will be submitted by the Tampa VA Research and Educational Foundation, Inc. to the SPO at the USAMRAA. After approval of this modification by the USAMRAA, Washington D.C. VAMC study personnel will obtain study approval from their IRB and Research and Development Committee (RDC) and USAMRMC HRPO. Tampa VA will obtain approval from their IRB and RDC and the USAMRMC HRPO for this study modification (adding Washington D.C. VAMC site to the study). Tampa VA study personnel will travel to Washington D.C. VAMC to train their study personnel and provide any additional assistance needed to successfully launch the study at that site.

References

¹ Malec, J. (2005). The Mayo Portland Adaptability Inventory. *The Center for Outcome Measurement in Brain Injury*. http://www.tbims.org/combi/mpai (accessed October 19, 2009).

² Malec, J.F. (2004). Comparability of Mayo-Portland Adaptability Inventory ratings by staff, significant others, and people with acquired brain injury; 2004, *Brain Injury*, 18, 563-575.

³ Fox-Rushby JA Hanson K, Calculating and presenting disability adjusted life years (DALYs) in cost effectiveness analysis, 2001, Health Policy and Planning 16(3): 326-331.

⁴ http://tbims.org/combi/chartsf/